165627

Sauget Area 2 Sites Group

June 4th, 2001

Mr. Mike McAteer
U.S. EPA - Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

RE: Sauget Area 2 Sites

Deliver by Overnight Mail

Dear Mike:

Solutia has found a 1988 report written by Geraghty & Miller entitled an "Assessment of an Old Lagoon at the American Bottoms Treatment Plant" which was done on behalf of the Sauget Sanitary Development and Research Association. (Copy attached.) Frankly I had forgotten this work was done until it was recently drawn to my attention. (During 1988 I was working for the Village on the start-up of the American Bottoms Treatment Facility.)

In reviewing this document I find that this was in-fact a study of Site S to define its boundaries and characterize the fill material. The report is significant since its 23 boring logs and two waste samples provide important background information and definition to Site S. I suggest we modify Section 3.5 of Volume 1 of the SSP (Previous Site Investigations, Site S) and add this Site S assessment as Appendix 6 to Volume 1. I will forward the modified Section 3.5 to you in the near future.

I apologize that this assessment was not included in the original draft SSP, but am certainly glad we now have it in time to get the document into the final SSP.

Sincerely,

Steven D. Smith
Project Coordinator

Cc: Sandra Bron - Illinois EPA
Peter Barrett - CH2M Hill
Michael Kangas - CH2M Hill
Kevin de la Bruere - U.S. Fish and Wildlife Services
Michael Henry - Natural Resource Trustees Program
SA2SG Technical Committee

ASSESSMENT OF AN OLD LAGOON AT THE AMERICAN BOTTOMS TREATMENT SITE

SAUGET SANITARY DEVELOPMENT
AND RESEARCH ASSOCIATION
SAUGET, ILLINOIS

April 1988

Geraghty & Miller, Inc.
Ground-Water Consultants
125 East Bethpage Road
Plainview, New York 11803

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ASSESSMENT OF AN OLD LAGOON AT THE AMERICAN BOTTOMS TREATMENT PLANT

SAUGET SANITARY DEVELOPMENT
AND RESEARCH ASSOCIATION
SAUGET, ILLINOIS

INTRODUCTION

In December, 1987 Geraghty & Miller, Inc. was retained by the Sauget Sanitary Development and Research Association (SSDRA), to evaluate an old waste lagoon located on American Bottoms Treatment Plant property. The objective of this project was to determine the nature, thickness, and lateral extent of buried waste material.

The lagoon is located on the northwest corner of the American Bottoms Regional Wastewater Treatment Facility (Figure 1). Part of the old lagoon lies within a fenced area, covered by chat, west of the American Bottom's administration building. Most of the remainder of the lagoon is located in an open field north of the fenced area.

METHODOLOGY

Under the direction of a Geraghty & Miller hydrogeologist, John Mathes & Associates, Inc. drilled 23 borings between December 28 and 31, 1987 (Figure 2). The borings were drilled on two east-west lines and one north-south line through the lagoon to best define its boundaries. An aerial

photograph was used to assist in determining the type of grid pattern necessary to find the lagoon boundaries.

All borings were drilled with a hollow-stem auger using either a truck-mounted or all-terrain vehicle (ATV). Soil samples were collected continuously at 2-ft intervals from ground surface with a 2-ft long, 2-inch diameter split-barrel core sampler. To prevent cross contamination between each borehole, all downhole drilling and sampling equipment was cleaned with a high-pressure steam cleaner. In addition, split-barrel core samplers were cleaned with a laboratory-grade detergent (Micro^{tm}). A record of sample location, depth, grain size, color and odor was maintained throughout the drilling operation. Geologic logs for these borings are provided in Appendix A.

Borings ranged in depth from 2 to 20 ft below land surface. Most were drilled to a depth of 4 to 6 ft. Additional borings (2-ft depth) were made toward the perimeter of the lagoon to better define the lateral boundaries. Three of the borings were also drilled to the water table to determine its position with respect to the waste material and to assess the quality of soil beneath the waste material.

Two soil samples, which were typical of the lagoon waste material, were obtained from two separate locations

(AB-8 and AB-10). These samples were collected at the 2- to 4-ft interval below land surface in each boring. The samples were shipped, in a sealed insulated container to Environmental Testing and Certification Laboratory (ETC) in Edison, New Jersey, via overnight express courier, for analysis of the USEPA priority pollutant list of compounds.

Upon completion of the boring program, all borings were properly backfilled with a grout/slurry mixture and staked for future reference.

GEOLOGY

The geology at the lagoon site consists of unconsolidated deposits made up primarily of sand, silt, and clay. Waste material was found to be thickest (approximately 3 ft) in the center of the lagoon area outlined on Figure 2. Most of the waste material exists between 1 and 4 ft below land surface. Stained soil is found beneath the waste as deep as 8 ft below land surface.

The water table was found approximately 19 ft below land surface during our study. This depth concurs with a the water-table depth measured in Geraghty & Miller Observation Well GM-23, which is located approximately 400 ft to the east of the lagoon.

CHEMICAL ANALYSES

The analytical results of chemical analyses to determine the nature of the waste material are summarized in Tables 1 through 5.

Respectfully submitted,

GERAGHTY & MILLER, INC.

Brian Blum
Field Geologist

Dennis Colton
Project Geologist

Nicholas Valkenburg
Project Manager

BB/DC/NV:dv

Table 1. Summary of Volatile Organic Compounds in Soil Samples, Sauget Sanitary Development and Research Association, Sauget, Illinois.

USEPA Priority Pollutant Volatile Organic Compounds	Soil Boring AB-8 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-8 (2 to 4 ft) Detection Limit (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Detection Limit (mg/kg)
Acrolein	ND	5000	ND	5000
Acrylonitrile	ND	5000	ND	5000
Benzene	ND	220	ND	220
Bis (chloromethyl) ether	ND	500	ND	500
Bromoform	ND	240	ND	240
Carbon tetrachloride	ND	140	ND	140
Chlorobenzene	ND	300	ND	300
Chlorodibromomethane	ND	160	ND	160
Chloroethane	ND	500	ND	500
2-Chloroethylvinyl ether	ND	500	ND	500
Chloroform	ND	80	ND	80
Dichlorobromomethane	ND	110	ND	110
Dichlorodifluoromethane	ND	500	ND	500
1,1-Dichloroethane	BMDL	240	ND	240
1,2-Dichloroethane	ND	140	ND	140
1,1-Dichloroethylene	BMDL	140	ND	140
1,2-Dichloropropane	ND	300	ND	300
cis-1,3-Dichloropropylene	ND	250	ND	250
trans-1,3-Dichloropropylene	ND	500	ND	500
Ethylbenzene	3370	360	3890	360
Methyl bromide	ND	500	ND	500
Methyl chloride	ND	500	ND	500
Methylene chloride	ND	140	560	140
1,1,2,2-Tetrachloroethane	ND	350	ND	350
Tetrachloroethylene	BMDL	210	BMDL	210
Toluene	17500	300	21400	300
trans-1,2-Dichloroethylene	220	80	ND	80
1,1,1-Trichloroethane	11700	190	621	190
1,1,2-Trichloroethane	ND	250	ND	250
Trichloroethylene	8850	95	1120	95
Trichlorofluoromethane	ND	500	ND	500
Vinyl chloride	ND	500	ND	500

ND Not detected
BMDL Below method detection limit
mg/kg Milligrams per kilogram

Table 2. Summary of Acid Extractable Organic Compounds in Soil Samples, Sauget Sanitary Development and Research Association, Sauget, Il.

USEPA Priority Pollutant Acid Extractable Organic Compounds	Soil Boring AB-8 (2 to 4 ft)		Soil Boring AB-10 (2 to 4 ft)	
	Concentration (mg/kg)	Detection Limit (mg/kg)	Concentration (mg/kg)	Detection Limit (mg/kg)
2-Chlorophenol	ND	1.3	ND	1.7
2,4-Dichlorophenol	ND	1.1	ND	1.4
2,4-Dimethylphenol	ND	1.1	9.16	1.4
4,6-Dinitro-o-cresol	ND	9.8	ND	12
2,4-Dinitrophenol	ND	17	ND	22
2-Nitrophenol	ND	1.5	ND	1.9
4-Nitrophenol	ND	0.98	ND	1.2
p-Chloro-m-cresol	ND	1.2	ND	1.6
Pentachlorophenol	ND	1.5	ND	1.9
Phenol	ND	0.61	68.6	0.78
2,4,6-Trichlorophenol	ND	1.1	ND	1.4

ND Not detected
BMDL Below method detection limit
mg/kg Milligrams per kilogram

Table 3. Summary of Base/Neutral Extractable Organic Compounds in Soil Samples, Sauget Sanitary Development and Research Association, Sauget, Illinois.

USEPA Priority Pollutant Base/Neutral Extractable Organic Compounds	Soil Boring AB-8 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-8 (2 to 4 ft) Detection Limit (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Detection Limit (mg/kg)
Acenaphthene	ND	0.77	ND	9.9
Acenapthylene	ND	1.4	ND	18
Anthracene	ND	0.77	ND	9.9
Benzidine	ND	18	ND	230
Benzo (a) anthracene	ND	3.2	ND	40
Benzo (a) pyrene	ND	1	ND	13
Benzo (b) fluoroanthene	ND	4.1	ND	52
Benzo (ghi) perylene	ND	1.7	ND	21
Benzo (k) fluoranthene	ND	1.4	ND	18
Bis (2-Chloroethoxy) methane	ND	2.2	ND	28
Bis (2-Chloroethyl) ether	ND	2.3	ND	30
Bis (2-Chloroisopropyl) ether	ND	2.3	ND	30
Bis (2-Ethylhexyl) phthalate	6.06	4.1	5850	52
4-Bromophenyl phenyl ether	ND	0.77	ND	9.9
Butyl benzyl phthalate	ND	4.1	132	52
2-Chloronaphthalene	ND	0.77	ND	9.9
4-Chlorophenyl phenyl ether	ND	1.7	ND	22
Chrysene	ND	1	ND	13
Dibenzo (a,h) anthracene	ND	4.1	ND	52
1,2-Dichlorobenzene	ND	0.77	ND	9.9
1,3-Dichlorobenzene	ND	0.77	ND	9.9
1,4-Dichlorobenzene	ND	1.8	ND	23
3,3-Dchlorobenzidine	ND	6.7	ND	86
Diethyl phthalate	ND	4.1	381	52
Dimethyl phthalate	ND	4.1	BMDL	52
Di-n-butyl phthalate	ND	4.1	1370	52
2,4-Dinitrotoluene	ND	2.3	ND	30
2,6-Dinitrotoluene	ND	0.77	ND	9.9
Di-n-octyl phthalate	ND	4.1	BMDL	52
1,2-Diphenylhydrazine	ND	4.1	ND	52
Fluoranthene	BMDL	0.89	BMDL	11
Fluorene	ND	0.77	ND	9.9
Hexachlorobenzene	ND	0.77	ND	9.9
Hexachlorobutadiene	ND	0.37	ND	4.7
Hexachlorocyclopentadiene	ND	4.1	ND	52
Hexachloroethane	ND	0.65	ND	8.3
Indeno (1,2,3-c,d) pyrene	ND	1.9	ND	24
Isophorone	2.38	0.89	1590 —	11
Naphthalene	1.45	0.65	1260 —	8.3
Nitrobenzene	ND	0.77	ND	9.9
N-Nitrosodimethylamine	ND	4.1	ND	52
N-Nitrosodi-n-propylamine	ND	4.1	ND	52
N-Nitrosodiphenylamine	ND	0.77	ND	9.9
Phenanthrene	BMDL	2.2	BMDL	28
Pyrene	BMDL	0.77	23.7	9.9
1,2,4-Trichlorobenzene	ND	0.77	ND	9.9

ND Not detected
BMDL Below method detection limit
mg/kg Milligrams per kilogram

Table 4. Summary of Pesticide and PCB Compounds in Soil Samples, Sauget Sanitary Development and Research Association, Sauget, Illinois.

Pesticide and PCB Compounds	Soil Boring AB-8 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-8 (2 to 4 ft) Detection Limit (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Detection Limit (mg/kg)
Aldrin	ND	0.77	ND	9.9
Alpha-BHC	ND	4.1	ND	52
Beta-BHC	ND	1.8	ND	23
Gamma-BHC	ND	4.1	ND	52
Delta-BHC	ND	1.3	ND	16
Chlordane	ND	4.1	ND	52
4,4'-DDT	ND	1.1	ND	15
4,4'-DDE	ND	2.3	ND	29
4,4'-DDD	ND	1.9	ND	24
Dieldrin	ND	1	ND	13
Endosulfan I	ND	4.1	ND	52
Endosulfan II	ND	4.1	ND	52
Endosulfan sulfate	ND	2.3	ND	29
Endrin	ND	4.1	ND	52
Endrin aldehyde	ND	4.1	ND	52
Heptachlor	ND	0.77	ND	9.9
Heptachlor epoxide	ND	0.89	ND	11
PCB-1016	ND	15	ND	190
PCB-1221	ND	15	ND	190
PCB-1232	ND	15	ND	190
PCB-1242	ND	15	ND	190
PCB-1248	ND	15	ND	190
PCB-1254	ND	15	ND	190
PCB-1260	ND	15	ND	190
Toxaphene	ND	4.1	ND	52

ND Not detected
BMDL Below method detection limit
mg/kg Milligrams per kilogram

Table 5. Summary of Metals and Miscellaneous Parameters in Soil Samples, Sauget Sanitary Development and Research Association, Sauget, Illinois.

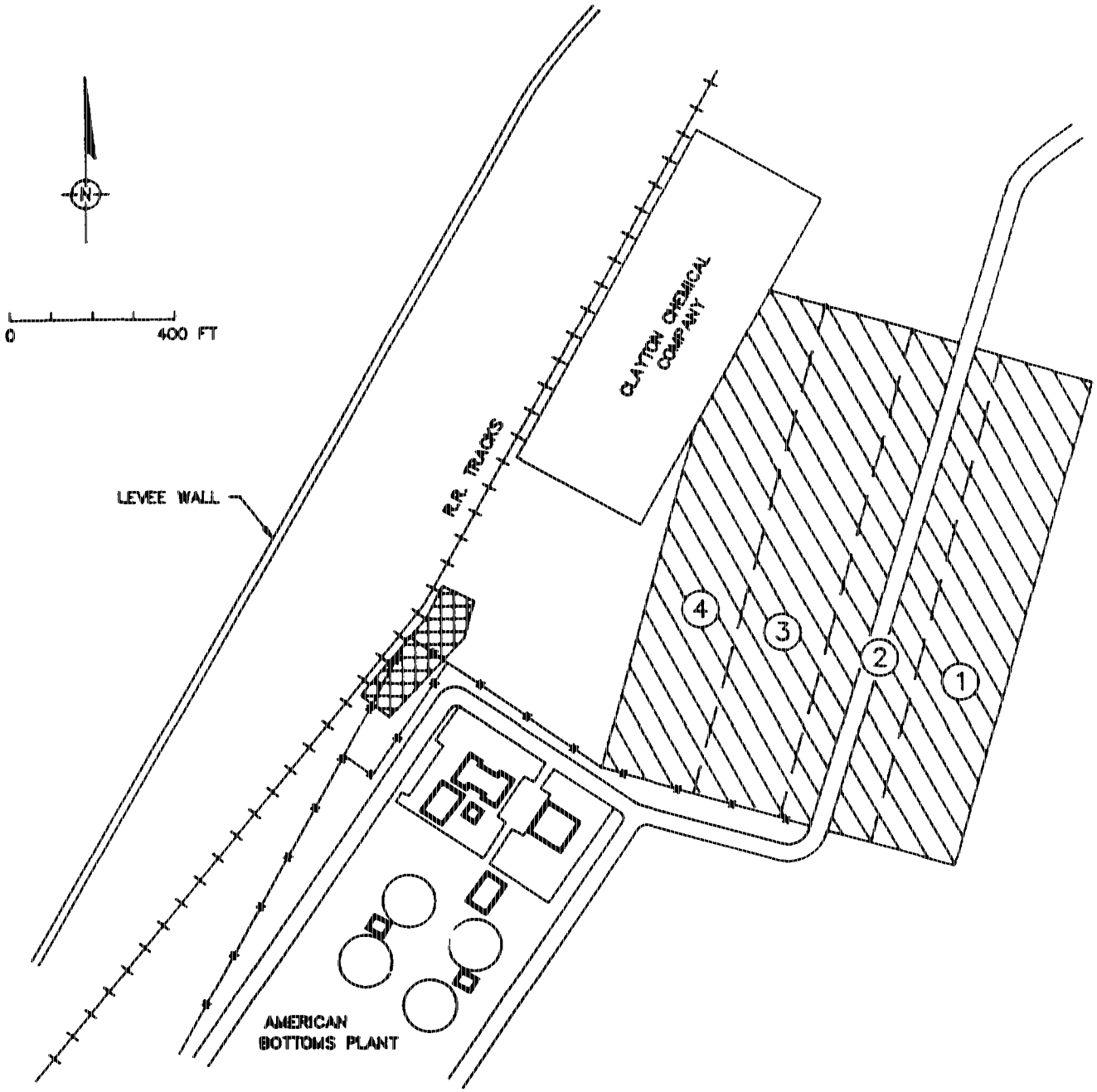
USEPA Priority Pollutant Metals	Soil Boring AB-8 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-8 (2 to 4 ft) Detection Limit (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Concentration (mg/kg)	Soil Boring AB-10 (2 to 4 ft) Detection Limit (mg/kg)
Antimony	ND	6.7	9.8	6.7
Arsenic	5.2	2	1.9	1
Beryllium	0.39	0.049	0.15	0.049
Cadmium	0.56	0.31	43.2	0.31
Chromium	27	0.78	2260	1.3
Copper	19	1.2	1570	1.5
Lead	52	4	11600	6.9
Mercury	BMDL	0.08	1.5	0.08
Nickel	13	1.1	17	1.1
Selenium	BMDL	1	5.3	0.5
Silver	ND	1.4	ND	1.4
Thallium	BMDL	1	ND	1
Zinc	74	2	767	2
Miscellaneous Parameters				
Phenol	20	0.1	52	0.1
Cyanide	<0.5	0.5	25	0.5

ND Not detected
BMDL Below method detection limit
mg/kg Milligrams per kilogram

GERAGHTY & MILLER, INC.
Ground-Water Consultants

DRN.	B.A. Blum	3-88	shown
PREPARED BY:	W.H. Cleio	FILE NO:	N0794MS2-040
PROJECT MGR.:	D. Colton		

SAUGET SANITARY DEVELOPMENT AND RESEARCH ASSOCIATION
Sauget, Illinois



EXPLANATION

LOCATION OF OLD LAGOON

LOCATION OF OLD SAUGET VILLAGE LAGOONS

SUBJECT:

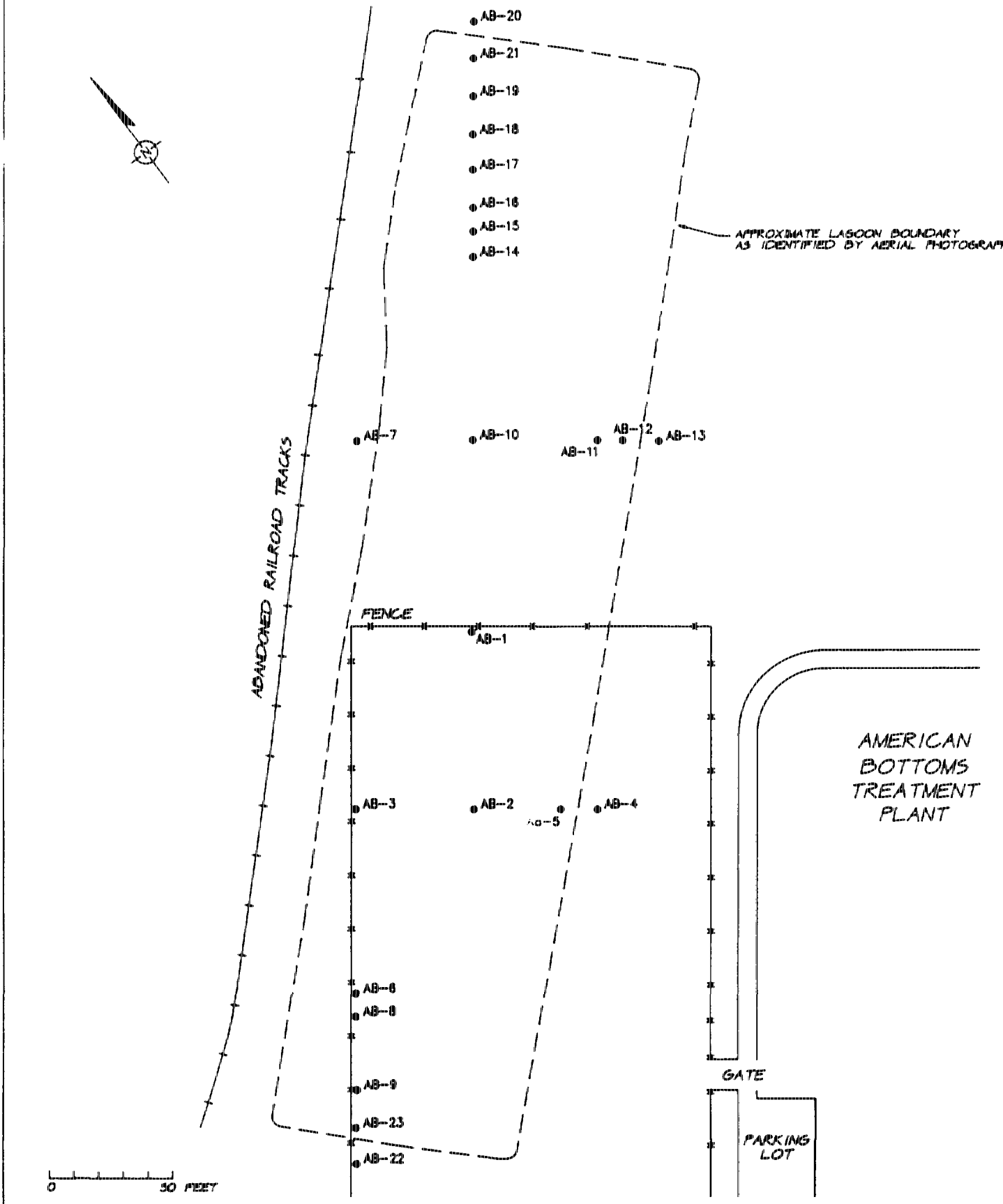
OLD LAGOON LOCATION

FIGURE 1

GERAGHTY & MILLER, INC.
Ground-Water Consultants

COMPILED BY:	B.A. Blum	DATE: 1-88	SCALE: as shown	PREPARED FOR:
PREPARED BY:	B.A. Blum	FILE NO: N0784MS04-040		
PROJECT MGR.:	D. Colton			

SAUGET SANITARY DEVELOPMENT AND RESEARCH ASSOCIATION
Sauget, Illinois



SUBJECT:

SOIL BORING LOCATIONS AND LAGOON BOUNDARY

FIGUR
2

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-1 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/23/87 DRILLING COMPLETED: 12/23/87

TOTAL DEPTH DRILLED: 16 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Tom Marlo HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	0.5	6-23-	Fill: Top - 0.5' Crushed stone cover (limestone
				17-7	pebbles and cobbles), light gray. Sand, fine wit
					silt, brown.
	2	4	0.75	9-5-	Fine black material with a strong odor, some red and
				5-7	pink resinous material as well.
	4	6	1.5	2-4-	Sand, fine, gray with a 0.5' brown silt seam in
				5-9	between; dry; sweet odor present.
	6	8	2.0	7-8-	Sand, fine, gray; sweet odor present; dry.
				11-10	
	8	10	2.0	5-4-	Sand, fine to medium, light gray; extremely
				6-9	strong odor present; dry.
	10	12	2.0	5-9-	Same as above.
				13-16	
	12	14	2.0	5-9-	Same as above.
				8-10	
	14	16	2.0	10-14-	Same as above. Wet at tip of spoon.
				14-18	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

SSDRA

BORING/WELL: AB-2 PROJECT NO: NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/28/87 DRILLING COMPLETED: 12/28/87

TOTAL DEPTH DRILLED: 20 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Tom Marlo HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	-	>50	No sample. All fill crushed stone could not
					penetrate spoon.
	2	4	1.5	2-6-	Fine sand and silt, black to brown; bottom 0.75'
				5-5	contains discolored sand, silt, lime green and
					dark red; strong odor present.
	4	6	0	2-3-	No recovery.
				5-3	
	6	8	2	2-4-	Silt, black, strong odor present; bottom 0.5' sand,
				7-8	fine, gray.
	8	10	2	2-4-	Sand, fine, gray.
				7-9	
	10	12	2	2-5-	Same as above (0.25' silt lens at 11.5' to 11.75').
				5-9	
	12	14	2	5-7-	Same as above.
				9-11	
	14	16	2	6-10-	Same as above.
				18-21	
	16	18	2	14-22-	Same as above.
				41-30	
	18	20		4-6-	Same as above. Wet at ~19'.
				7-9	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-3 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/28/87 DRILLING COMPLETED: 12/28/87

TOTAL DEPTH DRILLED: 6 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Tom Marlo HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	1.0	3-3-	Silt and clay, brown (covered with 0.5' of crushed
				4-5	stone).
	2	4	0.3	3-4-	Same as above. (A rock lodged into the spoon tip
				3-2	resulted in poor recovery.)
	4	6	1.5	2-2-	Clay, black (no odor present) grading into natural
				3-8	looking clay, gray, bottom 0.75'. Sand, fine
					gray in tip of spoon.

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-4 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/29/87 DRILLING COMPLETED: 12/29/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2		8-5-	Silt, brown, below a crushed stone cover.
				9-8	
	2	4		3-3-	Silt, brown with sand, fine in tip of spoon.
				4-5	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-5 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/29/87 DRILLING COMPLETED: 12/29/87

TOTAL DEPTH DRILLED: 6 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		7-8-	Crushed stone cover. Sand, fine, tan-brown.
				9-8	
	2	4		8-5-	Silt, brown, at 2.5' to 2.8', a faint green material
				5-7	grades into sand, fine, in tip of spoon, odor
					present.
	4	6		6-5-	Silt, brown (4' to 5'); sand, fine to medium, light
				5-8	brown (5' - 6').

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-6 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/29/87 DRILLING COMPLETED: 12/29/87

TOTAL DEPTH DRILLED: 6 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	1.0	2-4-	Crushed stone cover.
				3-3	
	2	4	1.0	Low	Silt, brown, at 2.5' - 3.0' silt was black and had a
					strong odor; back into silt and fine sand at
					3.0' - 4.0'.
	4	6	1.5	2-3-	Silt, brown and sand, fine.
				3-10	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-7 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/29/87 DRILLING COMPLETED: 12/29/87

TOTAL DEPTH DRILLED: 6 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		4-11-	Organic debris on top of black cinder type material
				9-10	with red and green spots.
	2	4		6-9-	Cinder type material (black) on top of silt and clay
				5-4	at 3'.
	4	6		4-3-	Clay, brown.
				5-4	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-8 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/29/87 DRILLING COMPLETED: 12/29/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		2-3-	Clay type material green and rusty-orange with stron
				5-2	odor.
	2	4		8-7-	Same as above; sheet-like layering and multicolored
				13-9	green, orange, red, yellow).
	4	6		-	No sample taken.

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-9 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/29/87 DRILLING COMPLETED: 12/29/87

TOTAL DEPTH DRILLED: 6 ft. HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		2-5-	Top 0.25' clay, green, orange sand, fine, brown
				9-10	below.
	2	4		23-12	Sand, fine, light brown (2' - 3') on top of clay;
				9-7	gray, strong odor.
	4	6		4-5-	Clay, dark gray to black with strong odor. Bottom
				9-7	0.3' sand, fine, gray.

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-10 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/30/87 DRILLING COMPLETED: 12/30/87

TOTAL DEPTH DRILLED: 20 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2	2	1-10-	Clay, natural organic material, rusty orange (0 - 1'
				25-19	black and green cinder-like material.
	2	4	1.0	19-17-	Crushed aggregate. Limestone chunks. (Material
				15-9	coming up around auger flytes is reddish-purple
					with a strong odor).
	4	6	-	5-6-	No recovery.
				7-11	
	6	8	2	5-8-	Sand, fine to medium, light gray.
				11-12	
	8	10	2	9-8-	Same as above.
				8-5	
	10	12	2	4-3-	Same as above grading into silt, dark gray at
				4-11	11' - 12'.
	12	14		7-11-	Sand, fine to medium, gray.
				14-14	
	14	16		11-14-	Same as above.
				14-15	
	16	18		6-9-	Same as above.
				15-24	
	18	20		14-15-	Same as above. Wet.
				15-19	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-11 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/30/87 DRILLING COMPLETED: 12/30/87

TOTAL DEPTH DRILLED: 6 ft. HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	1	Pushed	Rock lodged in spoon head. Organic debris, brown
					silt.
	2	4			Sand, fine, brown (2-3'), silt and clay, some black
					stain with slight odor.
	4	6			Sand, fine, brown (4 to 5.5'). Silt and clay
					(5.5 - 5.9'), sand, fine, gray, no odor.

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-12 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/30/87 DRILLING COMPLETED: 12/30/87

TOTAL DEPTH DRILLED: 6 ft. HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		1-3-	Clay, orange, on top of sand, fine fill; (1.5 ' 2'),
				10-6	aggregate.
	2	4		12-12-	Cinder type material 2.5 to 3.0'; 3.0 - 3.2, stained
				10-9	silt; 3.2 - 4', silt, gray.
	4	6		3-3-	Silt, gray.
				4-5	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-13 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/30/87 DRILLING COMPLETED: 12/30/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	2	2-6-	Silt and clay, orange, (0 - 0.5'); sand, fine
				6-7	(0.5 - 2.0').
	2	4	2	4-5-	Silt, dark gray. No odor.
				5-4	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-14 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/30/87 DRILLING COMPLETED: 12/30/87

TOTAL DEPTH DRILLED: 6 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2	1.5	2-14-	Silt and clay (0 - 0.5') followed by crushed rock.
				7-8	Fill.
	2	4	2.0	6-6-	Sand, fine, brown (2 - 3') silt, gray to black with
				5-4	odor (3 - 4').
	4	6	2.0	4-5-	Silt and very fine sand, grading into sand, fine,
				5-7	gray at 5.7'.

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-15 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2		7-10-	Clay and silt, orange (0 - 0.5'), dark organic
				9-9	material, no odor present (0.5 - 1.5') sand, fine
					light brown (1.5 - 2.0').
	2	4		6-5-	Sand, fine, light brown (2.0 - 2.5') silt, dark brow
				5-4	to light brown.

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-16 PROJECT NO: SSDRA N0794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	2	7-14-	Clay and silt, orange (0 - 0.5'),cinder like
				25-11	material, tan and white, brittle, (0.5 - 1.5').
					Sand and silt, fine.
	2	4	2	9-10-	Dark stained silt (2 - 3'), silt, gray (3 - 4').
				9-6	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

SSDRA

BORING/WELL: AB-17 PROJECT NO: NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 2 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2	1.0	>49	Crushed stone and stained silt, purple and black.
	2	4	-		No sample

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-18 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 2 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

OF CORING DEVICE: 2 ft x 2 in. INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2	2	4-15-	Silt and clay, orange (0 - 0.5'). Cinder like
				29-17	material with limestone. Has odor (0.5 ' 1.5'),
					sand, fine, brown (1.5 - 2.0').

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-19 PROJECT NO: SSDRA N0794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 2 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2	2	2-5-	Silt and clay, orange (0.05') cinder and rock
				9-6	(.5 - 1.25'); sand, fine (1.25 - 2.0').

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-20 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2	2	2-3-	Crushed rock (fill) (0.0 - 0.5'), sand, fine, brown
				4-6	(0.5 - 1.5'), silt (stained black) ~~no sludge~~
					(1.5 - 2.0').
	2	4		2-6-	Silt, brown.
				6-4	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-21 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 2 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		2-5-	Organic debris (0 - 0.3') pebbles, cobbles, and
				8-8	purple sand, fine grading to silt.
	2	4			

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-22 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 6 ft HOLE DIAMETER: 6 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: ( ) SURVEYED ( ) ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: Jim Breeding HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH		CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	FROM	TO			
	0	2		20-12-	Crushed stone, organic, mat (0 - 1'), clay, dense,
				12-22	black.
	2	4		6-5-	Silt, grading into sand, fine at 3.5'.
				3-5	
	4	6		2-8-	Sand, fine, light brown.
				10-10	

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: AB-23 PROJECT NO: SSDRA NO794MS04 PAGE: 1 of 1

SITE LOCATION: Sauget, IL DRILLING STARTED: 12/31/87 DRILLING COMPLETED: 12/31/87

TOTAL DEPTH DRILLED: 4 ft HOLE DIAMETER: 2 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon Core Barrel

LENGTH & DIAMETER OF CORING DEVICE: 2 ft x 2 in. SAMPLING INTERVAL: continuous

LAND-SURFACE ELEVATION: { } SURVEYED { } ESTIMATED DATUM:

DRILLING FLUID USED: None DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: John Mathes & Assoc. DRILLER: HELPER: Dave Ellis

PREPARED BY: B. Blum HAMMER WEIGHT: 140 lb HAMMER DROP: 30 in.

SAMPLE NO	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	CORE RECVRY	BLOW COUNTS	SAMPLE/CORE DESCRIPTION
	0	2		3-7-	Chat (0.5'), silt and clay (0 - 0.5'), sand, fine,
				10-10	brown, with silt (35%). Sample not retained in
					split spoon.
	2	4	1.5	17-13-	Sand, 2 - 2.75', followed by a 0.5 layer cinder type
				6-5	material (0.5') above silt, gray, dark on top.